Enodis Ice Group

Scotsman ICE O-Matic

775 Corporate Woods Parkway
Vernon Hills, IL 60061

October 13, 2004

Docket No. 04-AAER-1
Docket Office
California Energy Commission
1516 Ninth Street, Mail Station 4
Sacramento, California 95814-5512

Subject: Docket No. 04-AAER-1

Dear Commissioner,

We are writing on behalf of the Enodis Ice Group in response to the proposed energy consumption regulations for commercial ice makers. We are eager to collaborate with the Commission in developing a regulation to reduce overall energy used of commercial ice makers while at the same time assuring that there is no adverse impact to the foodservice industry. We have reviewed the proposed legislation and this letter summarizes our feedback. Attached to this letter is the presentation we made at the preliminary hearing on the proposed regulation on October 13, 2004 which details our recommendations.

Overall, we believe the framework for the legislation is sound and there are several improvement opportunities to reduce adverse impact:

- Consideration for differing compliance requirements (Compact, Quiet and Water Cooled Machines)
  - Reduce the potential of adverse economic impact
- Implementation Refinements:
  - Minor corrections and clarifications
  - Reduce the potential of adverse energy impact

The balance of this letter describes these improvement opportunities.

Consideration for Differing Compliance Requirements

There are three machine categories which are required by the market that deserve further review:

- 22 inch wide units
- "Quiet" machines
- Water Cooled Machines

This section of the letter describes the categories of these machines and why we believe they would benefit from further review and consideration.

Compact Machine - 22 inch Wide Units

Ice machines come in three industry standard widths: 22 inch, 30 inch and 48 inch. The 30 inch models are the most popular. The 22 inch units are sold at a premium to the 30 inch units and produce roughly the same amount of ice. These units are designed to meet the space constraints that exist in beverage applications and down-sized restaurants which is a large growth segment of the food service industry.

The compact design of the 22 inch air-cooled ice machines makes them inherently less energy efficient than comparable 30" wide units due to restricted air flow space. Only one in twelve (8%) of this type of air cooled machine currently offered passes the proposed regulation. We respectfully ask that the CEC consider either an exemption or a differing compliance requirement that would enable at least 20% of current ice machines in this category to pass (see attachment for specific proposal).

Quiet Units

"Quiet" units have both the condenser (like remote units) and the compressor located outside the building space to eliminate the compressor noise.

These "Quiet" units provide the following key benefits to the customer:

- Less noise and internal heat gain due to the compressor located outside
- Improved ability to sanitize the dispenser (improves access to bin)
- Greater placement flexibility which has two benefits:
    - Less handling of ice and associated injury
    - Promotes the conversion from self contained to remote which reduces HVAC load

Sixty percent of large ice makers have remote condensers to remove the internal heat gain associated with the condenser heat rejection. The proposed regulation has a category for remote air-cooled units which sets appropriate energy efficiency limits for ice machines with remote condensers and non remote compressors. As currently written the regulation would encompass the "Quiet" machine and in our opinion this regulation is too stringent for this category of equipment because these machines are inherently less efficient than the other remotes due to the separation of the compressor from the evaporator.

As written, there are no "Quiet" machines over 850 pounds capacities that pass the proposed regulation. Since these "Quiet" machines meet an important customer need we request that the CEC either provide an exemption or differing compliance requirement so that California customers have the ability to purchase "Quiet" machines in the future (see attachment for specific proposal).

Water-cooled ice machines

Water-cooled machines use water – instead of air – to dissipate the heat generated during ice making. They are the most efficient type of ice machine. No machines on the market over

1300 pounds per day pass the proposed energy regulation. This could create an adverse energy impact by shifting the market to less efficient remote air cooled units which are allowed to have higher energy consumption of approximately 1.25 kWh/100lbs. We request that the CEC consider either an exception or differing compliance requirement (see attachment for specific proposal).

Implementation Refinements

This section of the letter deals with several areas for improvement:

- Minor corrections and clarifications
- Reduce the potential of adverse energy impact

Minor Corrections and Clarifications

Definition of Ice Machine - The regulation does not provide a definition of the phrase "commercial ice maker". It is not clear if the regulation includes flake ice machines, low capacity residential ice machines or large capacity industrial sized ice machines (none of which are rated by ARI).

We recommend that language be added to the regulations to define commercial ice machines as machines that produce cube type ice with capacities between 50 and 2500 lbs per 24 hours when measured at ARI rating conditions. This language would exclude flakers, small residential ice machines and industrial ice makers from the regulation.

Definition of Variable "H" - The variable "H" is defined as the "harvest rate in hundreds of pounds per 24 hours". We believe this should be pounds per 24 hours, not hundreds of pounds. If left as hundreds of pounds, all ice machines would pass all the regulations.

Definition of Water Use - We were unclear whether the maximum water use regulation means potable water, condenser water or both. We believe it refers only to condenser water. We recommend that this be clarified.

Reduce the potential of adverse energy impact

Under the proposed regulation it is possible to convert a non-compliant machine into a compliant machine without any design changes by simply de-rating the published production rate of a specific model. The regulations specify maximum energy use based on the ice making capacity ("H") of an ice machine. The number, "H", and the energy are determined using ARI-specified test parameters. Those parameters specify that the tested production capacity for a machine must not be less than 95% of the rated capacity. Therefore tested capacity can currently be any amount MORE than the rated capacity. This allows the possibility of a manufacturer under-stating an ice machine's capacity (without violating the ARI regulation) to meet the regulation.

For example, based on today's ARI data, the Ice-O-Matic model 520 air-cooled makes 368 lbs/day, and uses 7.5 kWh/100 lbs. The proposed regulation limit for this machine is 7.1 kWh, so this machine is non-compliant with the regulation. However, if we were to submit

data to ARI that this machine made 320 lbs instead of 368 lbs then the 7.5 kWh energy rate would pass because the regulation limit at this capacity would be 7.5 kWh/100lbs.
This de-rating of capacity would be acceptable under the current ARI rules and proposed energy regulation and negate the intent of the regulation.

To avoid this adverse impact we recommendation that the Commission work with ARI to change the rules to state that tested capacity must be within plus or minus 5% of the rated capacity. This would prevent de-rating machines as a means of being compliant with the proposed regulation.

Summary

Thank you for the opportunity you have given us to provide this feedback. In summary, we recommend that Commission consider the following:

Minor Corrections and Clarifications

- Correctly define "H"
- Clarify definition of "water use"
- Clarify definition of "commercial ice maker"

Reduce Adverse Impact

- Provide a differing compliance requirement or exemption for:
  - 22 inch wide units
  - "Quiet" units
  - Water-cooled units
- Stipulate that the tested capacity must be within plus or minus 5% of the stated capacity

John Broadbent will be our point of contact on this subject. We look forward to the continuing dialogue and look forward to working together to improve the proposed regulation to meet the broad intent of saving energy without creating adverse impact in the food service market.

Sincerely,

Matt Allison
Vice President of Engineering
Scotsman Ice Systems
Telephone No. 847-215-4475
e-mail: Matt.Allison@Scotsman-Ice.com

John Broadbent
Vice President of Engineering
Ice O Matic
Telephone No. 303-576-3058
e-mail: John.Broadbent@Iceomatic.com

Attachment: Proposed Regulations for Commercial Ice-Makers presented to CEC by Enodis at public hearing on October 13. 2004